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September 22, 2006

Central Valley Regional Water Quality Control Board
Attn: Anne Olson, P.E.
11020 Sun Center Drive #200
Rancho Cordova CA 95670-6114

SUBJECT: Comments on Tentative Waste Discharge Requirements Cache Creek Golf Club, Yolo County

Anne –

Thank you for the opportunity to comment on the above captioned Tentative Order. This letter will provides our comments on the draft Waste Discharge Requirements Order and Draft Monitoring and Reporting Plan for the Cache Creek Golf Club in Rumsey, Yolo County, California.

COMMENTS ON THE TENTATIVE ORDER

(1) The name of the project and facility will be Cache Creek Golf Club, not Capay Hills Golf Club.

(2) Finding 2 states that the land is held in trust by the USBR. It is held in trust by the BIA (Bureau of Indian Affairs).

(3) Finding 13 correctly states the upper reservoir capacity is 57 acre-feet but incorrectly equates this volume to 0.33 million gallons. The conversion is 18.6 MG.

(4) Finding 27 states that the golf course and South Lake occupy 83.5 acres of trust land; the actual acreage of trust land occupied by those features is 79 acres. Finding 27 states that the golf course, North Lake, and the driving range occupy 106 acres of fee land; the actual acreage of fee land occupied by those features is 111 acres.

(5) Finding 28 states the clubhouse and golf cart barn are located on trust land; they are located on fee land.

(6) Findings 29 and 30 describe the decorative streams on the golf course as lined with 40-mil HDPE; as installed they are lined with 30-mil PVC and covered with a concrete cap.

(7) Finding 30 states the water level in the South Lake will be lowered to approximately 266 ft. MSL in the late fall to provide storage for RW and precipitation runoff during the rainfall season: the tentative operating plan will be to draw the South Lake down to water surface elevation 265 ft. MSL, which provides approximately seven feet of depth at the deepest point.

(8) Finding 31 should be re-written as follows:
South Lake will function as the irrigation reservoir for the golf course. It will receive reclaimed water from the WWTF and fresh water from Cache Creek as needed to provide supplemental irrigation water for the golf course~~, creek, waterfall feature,~~ and driving range, and water for the stream water feature. Fresh water for irrigation will be supplied from ~~Five Pond~~North Lake, which can receive water from the creek by either of two supply pumps~~.~~, which discharge to Five Pond. The water flows from Five Pond through the North Stream to North Lake. Fresh water ~~can be~~is pumped directly from ~~Five Pond~~North Lake via a low-head pipeline to either a return line to Five Pond, or to a distribution box that can divert the flow by gravity either to South Lake, or to the irrigation pump station wet well at the north end of South Lake.

(9) Finding 33 appears to be based on the 13 January 2006 version of the Golf Course Irrigation and Runoff Management Plan. The final version of that plan was dated 14 June 2006, and a copy is attached to this copy letter. Finding 33 should be revised to read as follows:
To prevent backflow of water from South Lake to North Lake or to Cache Creek, the pipeline from the pumping facility at the comfort station enters the distribution box with its invert at elevation 284.7' (msl), which is 2' above the 282.7' (msl) overflow elevation for the South Lake watershed area, and 11.2' above the tops of the two pipes that exit the distribution box and extend to South Lake.

(10) Signage regarding the recycled water lake at every tee is onerous and unnecessary. Order Specification E-2 covers these concerns adequately. Finding 34 should be deleted or edited as follows:
South Lake will not be fenced, but swimming, boating, and body contact will not be allowed. Signs notifying the public of these restrictions will be posted at South Lake ~~and golf course tees~~.

(11) Finding 37 cites an impractically large setback from the Cache Creek channel. Based on the USACE delineation of the Cache Creek channel, the project is designed to maintain a minimum 50-foot setback between the irrigated area and the Cache Creek channel in all locations. Finding 37 should be edited to read, in part, as follows:
…There will no eating areas, food preparation areas, or drinking fountains within the irrigated areas, and a ~~100-foot~~ 50-foot setback will be maintained between the irrigated area and the Cache Creek channel…

(12) Finding 40 misstates the design capacity of the trust land leach fields. The leach fields have thus far historically been used for the disposal of 50,000 gallons per day, but their design disposal capacity is 90,000 gallons per day.

(13) Finding 41 appears to be based on the 13 January 2006 version of the Golf Course Irrigation and Runoff Management Plan. The final version of that plan was dated 14 June 2006, and a copy is attached to this copy letter. Finding 41 should be revised to read, in part, as follows:

Fairways around South Lake	Sheet flow to inlets that drain via pipe to South Lake
East and south of South Lake	Sheet flow to inlets that drain via pipe to the Runoff Detention Basin

And

~~The runoff detention basin can overflow to a pipeline that conveys water to the runoff pump station on trust land. The runoff pump station pumps water to a culvert that conveys it to an existing drainage ditch on trust land that discharges to adjacent property not owned by the Discharger.~~ The runoff detention basin near South Lake has a discharge culvert at the property line at the southeast corner of the golf course. During large rain storms, as the basin fills and the water level reaches the elevation of the discharge culvert at the property line, the stormwater will flow by gravity through the culvert to the existing downstream drainage ditch, consistent with the site's historical stormwater runoff path.

(14) Finding 42 appears to be based on the 13 January 2006 version of the Golf Course Irrigation and Runoff Management Plan. Finding 42 should be revised to read, in part:

Based on an irrigated area of ~~165~~ 130 acres . . . . .

(15) Finding 43 states the water depth in the South Lake will be lowered to approximately 2 feet by October 30 each year to provide storage for RW and precipitation runoff during the rainfall season. The two foot depth is not correct. The standard plan will be to draw the South Lake down to water surface elevation 265 ft. MSL, which provides approximately seven feet of depth at the deepest point.

(16) Finding 44 should be revised to read, in part:
The ~~Capay Hills~~Cache Creek Golf Club facility is adjacent to the western bank of Cache Creek. Most of the site is on an overbank terrace at an approximate elevation of 255 to 275 feet above mean sea level (MSL) that slopes gently ~~toward~~ away from the creek.

(17) Finding 46 should be based on the final project water balance, submitted to the Regional Board on 07 April 2006, and should be modified to read:

Annual precipitation in the vicinity averages approximately ~~11.9~~ 17.9 inches and the 100-year total annual precipitation is ~~47.3~~ 42.3 inches. The reference evapotranspiration rate is approximately 81.7~~57~~ inches per year, and the estimated crop ET for turf is 51.5 inches per year.

(18) Finding 48 should acknowledge the revised HEC-RAS model run performed in April 2006, and the revised grading plan, which was included in the final version of the Golf Course Irrigation and Runoff Management Plan dated 14 June 2006, a copy of which is attached to these comments. The revised grading plan included a broad berm surrounding South Lake, built up to a minimum elevation of approximately 282.7 ft MSL, two feet above the modeled water surface elevation for the 100-year event. The revised model run indicated no significant change in expected water surface elevations during major flood events, as compared to the original March 2004 HEC-RAS model. The same area of the northeast part of the golf course will still see water in the 5 to 10 year event. This area is now occupied by hole 14, not holes 5 and 6. Finding 48 should be revised to read as follows:

Based on FEMA Flood Insurance rate maps, the majority of the golf course is within the 100-year floodplain. The RWD amendment submitted 19 June 2006 included a ~~March~~April 2004 Hydrologic Analysis Report Addendum using the HEC-RAS model developed by the US Army Corps of Engineers. The calibrated model for the original golf course grading plan indicates the following:

a. Hole~~s 5 and 6~~ 14 (mostly on fee land) will be flooded during a five-year event (which corresponds to a creek discharge rate of approximately 25,500 cubic feet per second, or cfs).

b. Portions of the golf course along the western hill line (both fee and trust land) will become a temporary flood channel during a 50-year event (which corresponds to a creek discharge rate of approximately 52,190 cfs) ~~and South Lake would be inundated~~.

c. The predicted 100-year floodplain elevation (approximately 61,725 cfs) ranges from approximately 279.2 ft MSL at the south end of the project to approximately 281.6 ft MSL at the north end of the project. The predicted 100-year floodplain elevation at the location of the South Lake is 280.7 ft MSL. ~~for most of the site is approximately 280 feet MSL. South Lake would be inundated, and p~~ Peak flows would tend to quickly recede.

~~However, t~~The grading design around South Lake ~~has been modified to create~~includes an earthen barrier ~~up to~~ with a minimum width of 30 feet ~~wide with~~ and a minimum crest elevation of 282.7 feet MSL to prevent inundation of South Lake during the 100-year flood event. If South Lake is inundated by a flood event that exceeds the 100-year event, the Discharger will use the existing leachfields and/or other storage/disposal areas on trust land to prevent discharges of wastewater to surface water until South Lake can be brought back into service.

(19) Regarding Finding 50, although the drillers report identifies this well as an agricultural well, local reports indicate that it is in fact used as a domestic well. It

is located more than 50 feet away from the common property line shared with the trust portion of the golf course.

COMMENTS ON THE DRAFT MRP

(20) Not all of the flows referenced on page 3 of the MRP under "Golf Course Reclamation Monitoring" are metered, or capable of being metered.

"Flow from South Lake to irrigation areas" is/will be metered. A meter is installed on the discharge of the pump station which supplies the golf course irrigation system. It is located near the north end of South Lake. This will quantify the amount of blended water applied to the golf course on a real time basis.

"Flow from Cache Creek directly to irrigation areas" – Normally, no water is applied directly from the Creek to the irrigated areas; it passes through North Lake first. See below.

"Flow from Cache Creek to South Lake" – Water from Cache Creek is pumped into Five Pond by the existing creekside pump upstream from the golf course and/or by the future creekside pump to be installed adjacent to the golf course. Both of these flows are/will be metered. Water then flows from Five Pond to the North Lake via the North Water Feature Stream. A 48-inch diameter intake pipe connects the North Lake to the Comfort Station Pump Station (CSPS) wet well. Water is pumped – without metering – from the CSPS wet well to either Five Pond (recirculation feature) or to the Distribution Box (which splits that flow between the South Lake Irrigation Pump Station and the South Lake fill pipe, which simply discharges into South Lake). The direct flow to the South Lake Irrigation Pump Station is a contingency feature incorporated mainly to allow a higher percentage of fresh water to be used in the first year of turf establishment, if necessary. Direct flow to the South Lake Irrigation Pump Station is not the planned typical mode of operation, and is not anticipated to occur under any normal, expected conditions. The CSPS pump will operate continuously, and the delivery point will be controlled by the water surface elevation in South Lake. When South Lake is low, the CSPS discharge will go through the distribution box to South Lake. When South Lake water surface is high, the CSPS discharge will not pass through the distribution box, but rather will be directed back to Five Pond, and will charge the North Stream and recirculate the North Lake water.

Thank you very much for the opportunity to comment on the proposed Tentative Order, and please do not hesitate to call me if you have any questions.

Sincerely,
HydroScience Engineers, Inc.

Steve Ferry, P.E.
Sr. Project Manager

Att:
07 April 2006 water balance for project
14 June 2006 Golf Course Irrigation and Runoff Management Plan
19 June 2006 transmittal letter for Irrigation and Runoff Management Plan

c w/o att: Terry Macaulay
Bruce Sarazin
David Zweig
Mike Reiff
Tom Horgan